

CBASS – CABLE BURIAL ASSESSMENT SURVEY SYSTEM



- Cable Route Surveys
- Pipeline Route Surveys
- Geohazard Surveys
- Geological Investigations
- Dredge Material Investigations

C-BASS® is used to complement conventional geophysical surveying techniques to provide an improved prediction of the geotechnical characteristics of the top few meters of seafloor sediments. This information will improve the optimization and cost effectiveness of the cable manufacturing and installation processes.

SPECIFICATIONS

Frame: Aluminum
Size: 3.6m H x 2.7m W x 4.5m L
Weight: 1500 kg
Depth: 2000m
Video: B&W slow scan
HPU: 3 HP, 3 gpm, 1200 psi

Sensors: heading, pitch, roll, depth, altitude, hydraulic pressure, cpt cone up, cpt penetration counter
Controls: pan, tilt, lights, hpu start/stop, cpt control

C-BASS® is a special purpose remotely operated vehicle (ROV) that provides enhanced cable burial assessment information during the geophysical survey at a lower cost and prior to cable manufacture. C-BASS® is dragged along the seafloor cable route and utilizes 3 primary data acquisition subsystems: a cone penetrometer, direct current electrical resistivity and an ultra-high resolution, multi-frequency subbottom profiler. C-BASS® is designed to operate off vessels-of-opportunity using standard handling equipment and deep sea coaxial cables.

FEATURES

Resistivity / IP - C-BASS® uses an inverted Schlumberger electrode array to measure apparent resistivity at each of 7 electrode spacings. The data acquisition system provides a real-time display of apparent depth vs. apparent porosity/density. Post processing of the data provides true layer thickness vs. true porosity/density. The resistivity of the ambient seawater and the water depth are also measured and used in the calculations. C-BASS® can concurrently collect Induced Polarization (IP) data to identify mineralogy and clay content of the seabed.

Acoustics - The acoustic profiler on C-BASS® has 3 discrete transceivers with separate transducers. The frequencies used are 40, 70 and 110 kHz. Different sediments absorb, reflect and transfer acoustic energy differently depending on the frequency of the energy in much the same way as different materials respond to light resulting in different colors. The profiles collected at the different frequencies indicate different characteristics and allow enhanced interpretation based on the "colors" of the different layers. The acoustic profiler data is digitized, displayed and stored on optical disk using the GeoMAP sonar processor.

Mini Cone Penetrometer - The MCP allows fast, direct and high quality geotechnical measurements to be made of the soil characteristics. The MCP uses a probe that has a 60° cone with a projected area of 2 cm² area and a friction sleeve with a surface area of 10 cm² area on the end of a 1.2 cm diameter stainless steel tube. The length of the tube is 5 meters and a coiling mechanism is used to bend the tube into a 0.75 m coil for storage and to straighten the tube during operation. A hydraulic mechanism provides a thrust force of up to 1.5 tons to push the probe/tube into the soil and strain gauges mounted in the probe transmit the tip resistance and sleeve friction through wires in the tube to the data acquisition system.

Data Integration - The geophysical data from the acoustics and resistivity subsystem are collected continuously and the geotechnical data from the MCP are collected in discrete areas of interest along the proposed cable burial route. The data sets are then analyzed together to allow full characterization of the sediments, selection of the correct burial equipment and prediction of the burial depth and plow cable tension.

C-BASS is a registered trademark of Williamson & Associates, Inc.

1124 NW 53rd Street
Seattle, WA 98107
Tel: 206-285-8273
Fax: 206-285-8291



15615 Lee Road
Houston, TX 77032
Tel: 281-987-8783
Fax: 281-987-3883